



Bat Exposure and Rabies

Background

According to CDC statistics, there were a total of 33 cases of human rabies diagnosed in the United States from 1990 to 2001. Seven were infected outside the United States. Laboratory information indicated that 24 of the 26 (92.3%) domestic infections were variants of the rabies virus associated with bats. Because intervention after possible exposure to rabies is not that uncommon, it is difficult to know what these figures would be like without the use of post-exposure prophylaxis.

From the 2001 rabies summary produced by CDC, there were a total of 7,437 non-human cases of rabies reported in the U.S. during that year and 1 human case (possibly acquired from a dog). The animal case breakdown by species was as follows, in order of percent contribution to positive tests.

Raccoons (37.2%; 2,767 cases)

Skunks (30.7%; 2,282)

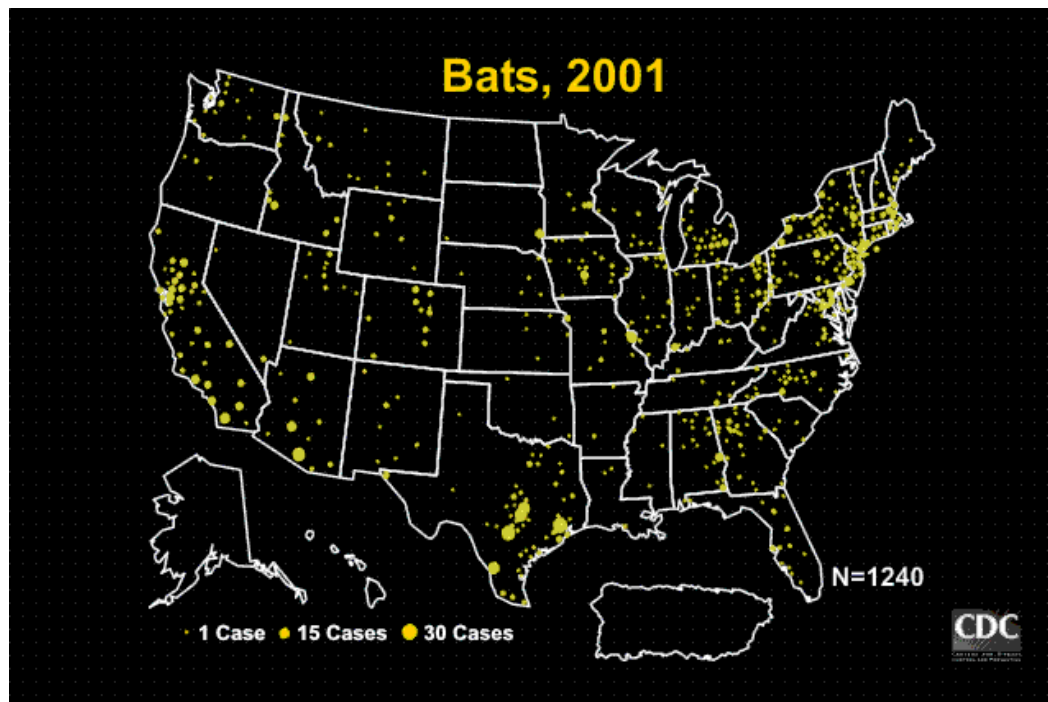
Bats (17.2%; 1,281)

Foxes (5.9%; 437)

Cats (3.6%; 270)

Dogs (1.2%; 89)

Cattle (1.1%; 82)



Of the bats that tested positive for rabies virus, 58.1% (744/1,281) were identified beyond the taxonomic level of order (22 to genus, 722 to species). Among bats identified to species level, 47.1% (340/722) were *Eptesicus fuscus*, the big brown bat; 28.3% (204/722) were *Tadarida brasiliensis*, the Brazilian (Mexican) free-tailed bat; 5.5% (40/722) were *Lasiurus cinereus*, the hoary bat; 4.3% (31/722) were *L borealis*, the red bat; 3.7% (27/722) were *Myotis lucifugus*, the little brown bat; 3.0% (22/722) were *Lasionycteris noctivagans*, the silver-haired bat; 1.7% (12/722) were *M yumanensis*, the Yuma bat; 1.7% (12/722) were *Pipistrellus hesperus*, the western pipistrelle; and 1.2% (9/722) were *P subflavus*, the eastern pipistrelle. Unspecified bats of the genus *Myotis* (3.0% [22/744]) and 11 other species (contributing < 3.5% [25/722] to the total, with no individual species in this latter group contributing > 1.0%) accounted for the remaining rabid bats. Not all states were able to speciate bats, nor did all states report total numbers of bats tested for rabies.

Discussion

While fairly common in wildlife, rabies is an uncommon disease in humans in the United States. Human cases in the U.S. average only around 1 or 2 per year. In the CDC summary of cases since 1990, there have been no human cases of rabies reported in Wyoming over the last 13 years. Again, it's possible that these cases would be more common if not for the use of post-exposure prophylaxis.

While the risk of acquiring human rabies is extremely low, the disease is fatal if not treated early after exposure. Because of the serious nature of this illness, it is important to treat any possible threat of exposure seriously. If someone is exposed to a live bat, with normal behavior, in an enclosed space, a case-by-case decision will have to be made using a three way discussion between the park, the NPS/Public Health Program, and the NPS Veterinarian. There will be instances where bats are in rooms, return through an opening, and capture might not be possible, or at the very least, knowing that we have captured the right bat might be impossible. In other cases, where rapid response is achieved and we are fairly certain that the bat in question is present for capture, killing and testing the bat should be an option. The advantage of such a capture under certain identity circumstances would be to spare the exposed person(s) the difficult decisions surrounding post-exposure prophylaxis.

Recommendations

1. As always, and as practiced in the past, parks, concessions, and partners should conduct an active, on-going, bat exclusion program for all of its structures.
2. The following guidelines are recommended for handling of bat exposures by the park.

Exposure	Status of Bat	Action	Contact
None	Dead	Contact Public Health <ul style="list-style-type: none"> - determine exposure - public health will contact NPS Vet. - Ship bat to NPS Veterinarian 	Public Health Consultant (see list below) Margaret A. Wild, DVM, PhD Wildlife Veterinarian National Park Service 1201 Oak Ridge Dr., Suite 200 Fort Collins, CO 80525 Phone: (970) 225-3593 Fax: (970) 225-3585
None	Abnormal Behavior (crawling around in	Contact Public Health <ul style="list-style-type: none"> - determine exposure 	Public Health Consultant

Exposure	Status of Bat	Action	Contact
	the daytime or aggressive)	<ul style="list-style-type: none"> - public health will contact NPS Vet. - Ship bat to NPS Veterinarian 	Margaret Wild
Bite	Any Status	Contact park Concessions office and Public Health immediately <ul style="list-style-type: none"> - public health will contact state health department - bat will be shipped to state lab (or CDC if state can't take the specimen) 	Public Health Consultant
In Room	Any Status	Contact park Concessions office and Public Health <ul style="list-style-type: none"> - public health will determine actions based on case (if the bat in question is obvious and accessible, capture, euthanize/kill, and testing will be considered) - park concession should move visitor to new room and close room until discussed with public health 	Public Health Consultant
Outside	Flying at Night	Enjoy	

3. Work with public health, natural resources and NPS Veterinarian to develop a visitor interpretation pamphlet on bats, including a discussion of rabies.
4. Train concession employees on how to handle this issue, what actions to take and who to contact if bat exposures are reported.

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Intermountain	CAPT John Collins (Denver)	303-969-2922
	CAPT Joe Winkelmaier (Santa Fe)	505-988-4060
	LT George Larsen (Gardiner, MT)	307-344-2273
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